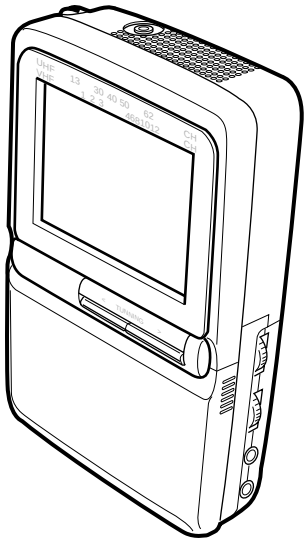
SERVICE MANUAL & PARTS LIST (without price)

EV-510C (PAL B / G,H)
EV-510D (PAL I)
EV-510I (PAL B / G)
EV-510N (PAL B / G,H)

FEB. 1997



EV-510

INDEX

CASIO®

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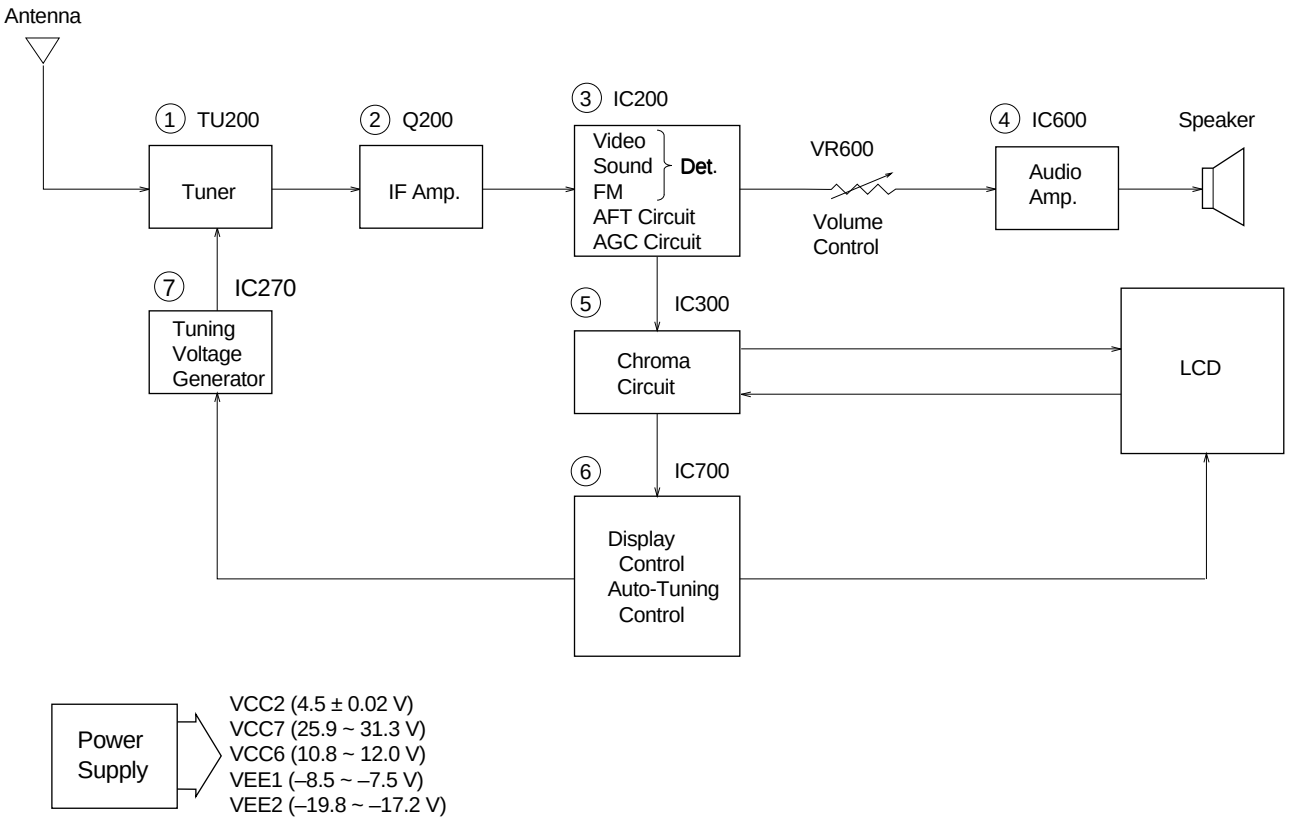
SPECIFICATIONS

Item	Specification
1. Power voltage	DC 6.0 V
2. Power consumption	Approx. 2.3 W
3. Current consumption	Approx. 383 mA
4. Power supply	Batteries : 3 AA size batteries Car adaptor : CA-K65 AC adaptor : AD-K65
5. Connection terminals	Earphone jack : 3.5ø mini External power jack : 6.0 V DC IN External antenna jack : 3.5ø mini Audio / Video jack : 3.5ø
6. Screen size	2.5 inches
7. No. of Picture element	61,380 (220 × 279) dots
8. Dimensions	75 (W) × 26.7 (D) × 120.8 (H) mm
9. Weight	195 g excepting batteries
10. Options	AC adaptor : AD-K65, 64 Car adaptor : CA-K65 RF connector : CF-13 Antenna matching device : AS-35S

Model	Color System	TV System	Channel		
EV-510C/N	PAL	B/G, H	CCIR	VHF: 2 ~ 12 ch	UHF: 21 ~ 69 ch
EV-510D	PAL	–/I	UK	—	UHF: 21 ~ 68 ch
EV-510I	PAL	B/G	ITALY	VHF: A ~ H2 ch	UHF: 21 ~ 69 ch

BLOCK DIAGRAM



① — Color tuner: TU200 TEPE5-01 (EV-510C/I/N) TEPB5-05 (EV-510D)
Selects a desired radio wave and changes it to the video IF signal.

② — Video IF amp.: Q200 2SC4238
Amplifies the video IF signal output from tuner TU200 by 10 times (20 dB).

③ — Video det./Sound det./FM det./AFT/AGC: IC200 M51348FP
Eliminates the carrier wave in the video IF signal, and picks up the video signal and the sound IF signal. Also, the sound signal is picked up from the sound IF signal by FM detection.

④ — Audio amp.: IC600 NJM2070M
Sound amplification.

⑤ — Chroma circuit: IC300 IR3P96-1
Generates the tricolor (red, green, and blue) from the video signal.

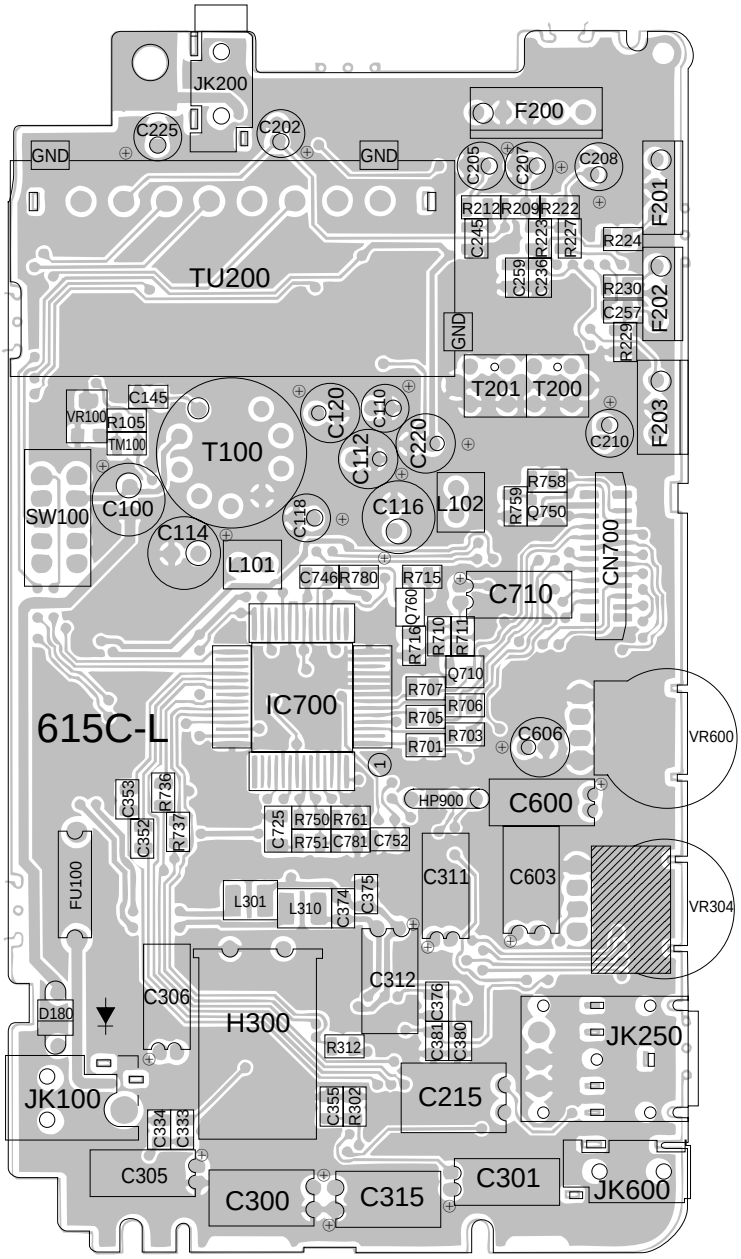
⑥ — Display control/Auto-tuning control: IC700 MSM6770CGS
Controls the display.

⑦ — Tuning voltage generator: IC270 BA10358F
Generates the tuning voltage with the tuning pulse output from ⑥.

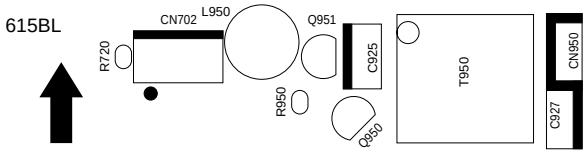
PRINTED CIRCUIT BOARDS

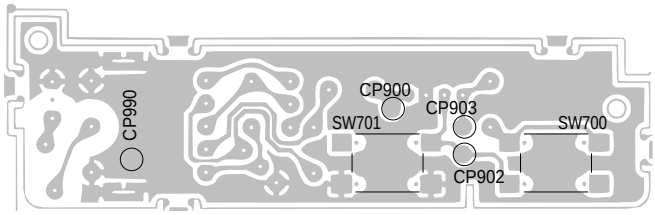
TOP VIEWS

Linear

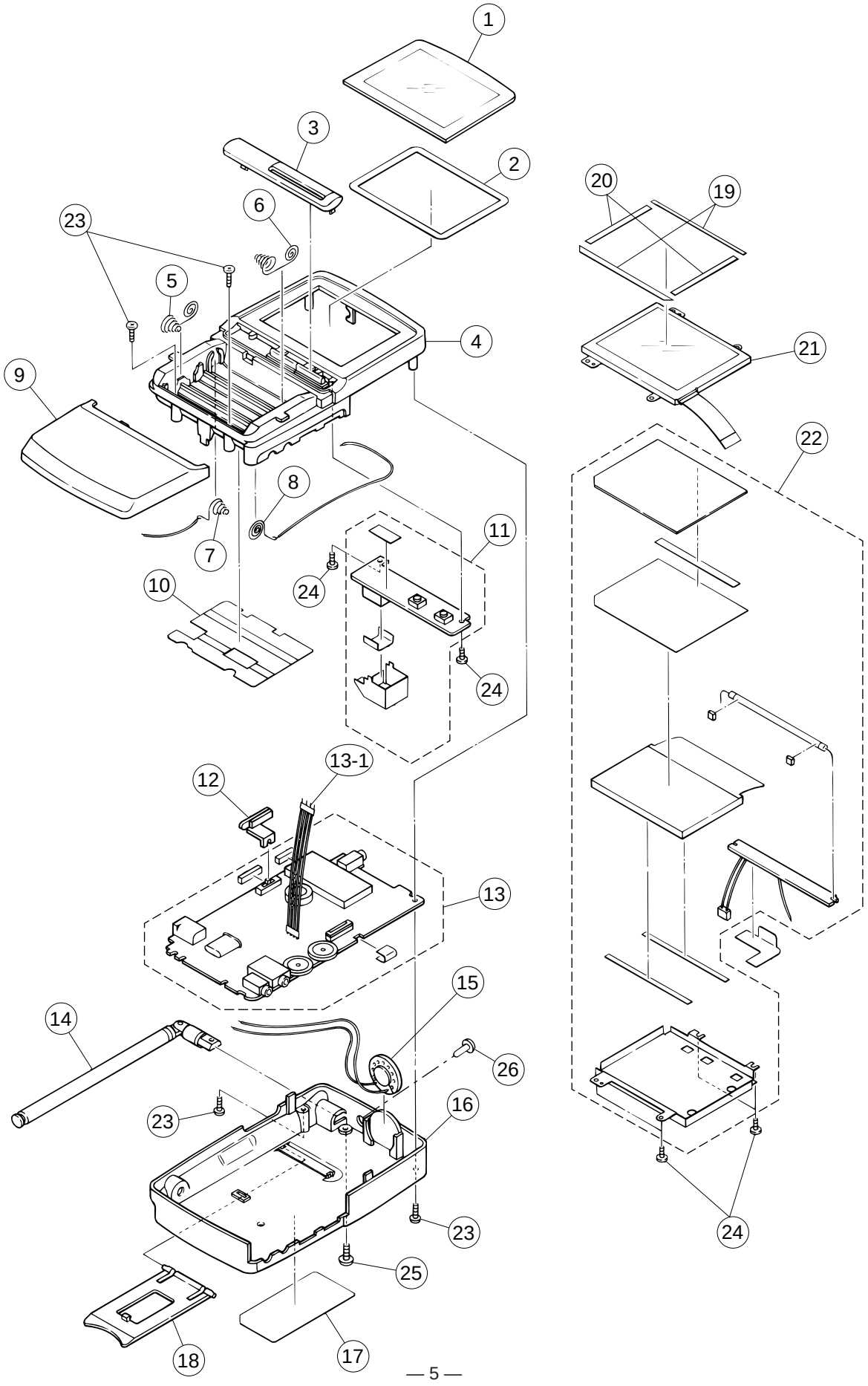


BL




CP990
CP900
CP903
SW701
SW700
CP902

EXPLODED VIEW



PARTS LIST

LINEAR PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	Diodes					
D100	2390 1183	Chip diode	MA142WK-(TX)	Common	1	C
D110	2315 0158	Chip zener diode	MA3051-L(TX)	Common	1	C
D150	2390 1183	Chip diode	MA142WK-(TX)	Common	1	C
D152	2390 1183	Chip diode	MA142WK-(TX)	Common	1	C
D154	2390 1183	Chip diode	MA142WK-(TX)	Common	1	C
D156	2390 1183	Chip diode	MA142WK-(TX)	Common	1	C
D158	2390 1470	Chip diode	MA143A-(TX)	Common	1	C
D180	2390 1190	Chip diode	ERA15-01Y	Common	1	C
	Fuse					
FU100	3632 0469	Fuse	PI-251001(F10)	Common	1	B
	ICs					
IC200	2114 1827	Linear IC	M51348FP-T1	Common	1	C
IC270	2116 0119	OP AMP	BA10358F-T1	Common	1	C
IC300	2114 3479	Linear IC	IR3P96-1	Common	1	C
IC600	2114 2464	Linear IC	NJM2070M-T1	Common	1	C
IC700	2015 0147	LSI	MSM6770CGS-2K-6004	Common	1	C
IC701	2114 3458	IC	S-81230SG-QB-T1	Common	1	C
	Jacks					
JK100	3501 8281	Jack	HEC0811-010010	Common	1	C
JK200	3501 5439	Jack	HSJ1456-01-210	Common	1	C
JK250	3501 3773	Jack	HSJ6063-01-410	Common	1	C
JK600	3501 5439	Jack	HSJ1456-01-210	Common	1	C
	Transistors					
Q101	2253 0133	Chip transistor	2SD1819A-R(TX)	Common	1	B
Q110	2253 0133	Chip transistor	2SD1819A-R(TX)	Common	1	B
Q111	2253 0308	Chip transistor	2SD1119-R(TX)	Common	1	B
Q200	2252 0707	Chip transistor	2SC4238-(TX)	Common	1	C
Q204	2210 8026	Chip transistor	2SB709A-R(TX)	Common	1	C
Q270	2259 1435	Digital transistor	DTC144EUWT106	Common	1	C
Q600	2259 1645	Digital transistor	DTA144EUWT106	Common	1	C
Q750	2251 0189	Chip transistor	2SB1218A-R(TX)	Common	1	C
Q760	2251 0189	Chip transistor	2SB1218A-R(TX)	Common	1	C
	Switches					
SW100	3412 0938	Slide switch	ESD-11V231	EV-510C/I/N	1	C
SW100	3412 1134	Slide switch	ESD-11V221	EV-510D	1	C
	Converter					
T100	3065 0518	DC-DC converter	LC12U-35	Common	1	B
	Tuners					
TU200	1013 5315	Tuner	TEPE5-01	EV-510C/I/N	1	C
TU200	1014 8570	Tuner	TEPB5-05	EV-510D	1	C
	Variable resistors					
VR304	2765 1708	Volume	XV081PV1NB10K3017	Common	1	C
VR600	2765 1708	Volume	XV081PV1NB10K3017	Common	1	C

Notes: Q – Quantity used per unit
R – Rank

BL PCB

Item	Code No.	Parts Name	Specification	Applicable	Q	R
	Transistors					
Q950	2253 0287	Chip transistor	2SD965-R	Common	2	B
Q951	2253 0287	Chip transistor	2SD965-R	Common	2	B
	Switches					
SW700	3412 1029	Switch	SKHHAL	Common	2	C
SW701	3412 1029	Switch	SKHHAL	Common	2	C
	Transformer					
T950	3012 1239	Inverter trans	NT-06	Common	1	B

Notes: Q – Quantity used per unit
R – Rank

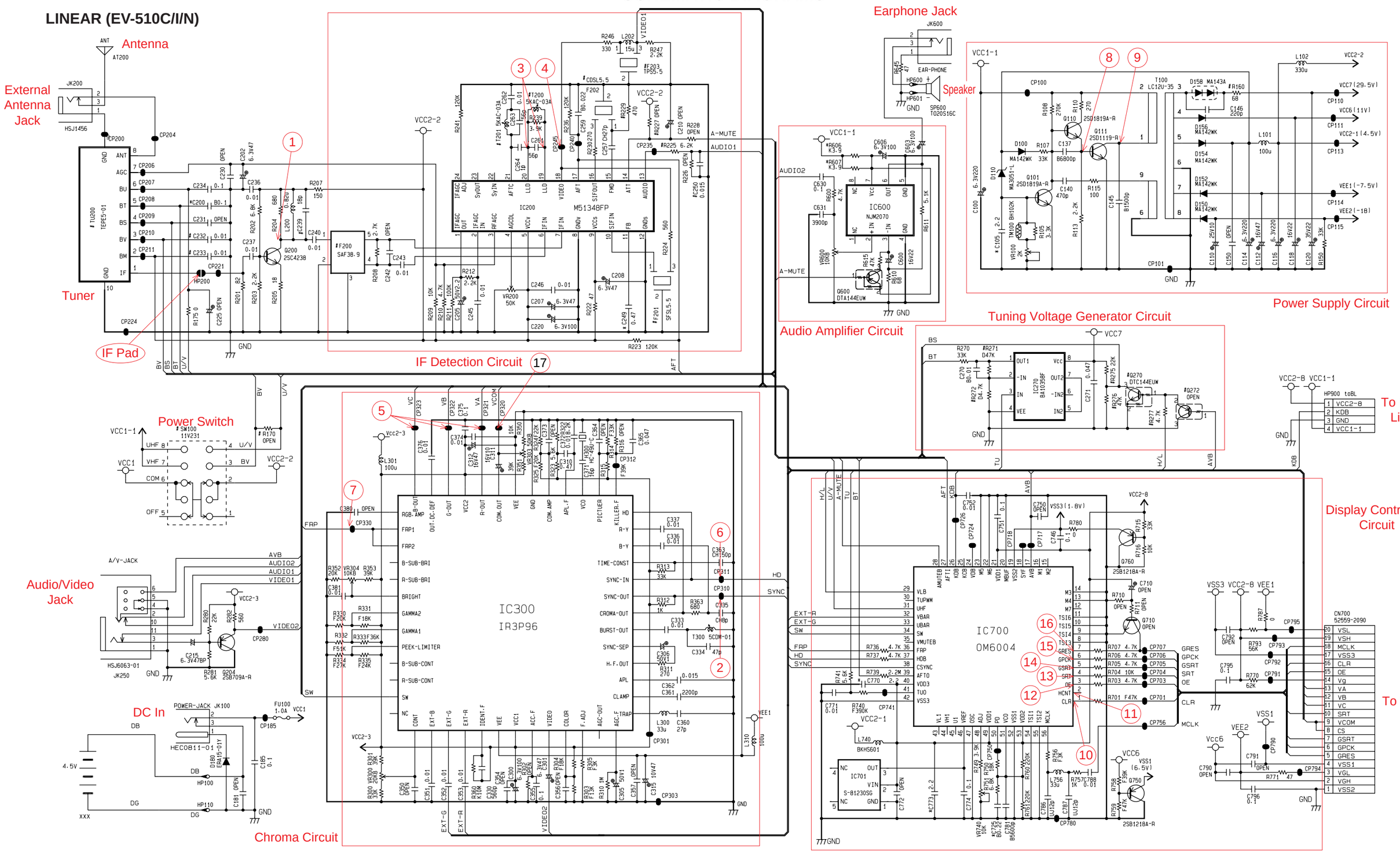
COMPONENT

Item	Code No.	Parts Name	Specification	Applicable	Q	R
1	6611 8750	Display plate CIM-K619	K440980-2	EV-510C	1	C
1	6611 8790	Display plate DDM-K619	K440980-3	EV-510D	1	C
1	6611 8820	Display plate NBM-K619	K440980-6	EV-510I/N	1	C
2	6609 9080	Adhesive tape A-K615	K440178-1	Common	1	X
3	6611 5090	Upper cover AAM-K617	K240130-3	EV-510C/D/N	1	X
3	6611 9020	Upper cover I-K619	K240130-5	EV-510I	1	X
4	6609 9031	Upper case B-K615	K140049A-1	EV-510C/I/N	1	X
4	6610 2661	Upper case D-K615	K140049A-3	EV-510D	1	X
5	6020 7658	Battery spring B1 G513	P408A-1	Common	1	X
6	6020 7666	Battery spring B2 G513	P409A-1	Common	1	X
7	6609 9070	Battery spring A-K615	K440159-1	Common	1	X
8	6609 9060	Battery spring B-K615	K440243-1	Common	1	X
9	6611 8840	Battery cover AAM-K617	K240129-4	EV-510C/D/I/N	1	X
10	6609 9050	Battery blind plate A-K615	K440179-1	Common	1	X
11	6611 4975	BL PCB unit	K440948*1	Common	1	C
12	6609 9220	Switch knob A-K615	K340117-1	Common	1	X
13	6611 8717	Linear PCB ass'y	K340740*2	EV-510C/I/N	1	B
13	6611 8718	Linear PCB ass'y	K340740*3	EV-510D	1	B
13-1	6609 9090	Flat cable A-K615	K340176-1	Common	1	C
14	3851 1470	Rod antenna	VR70100GA	Common	1	B
15	3831 0987	Speaker	2083G	Common	1	C
16	6609 8970	Lower case B-K615	K140050-1	EV-510C/D/N	1	X
16	6610 2130	Lower case I-K615	K140050-3	EV-510I	1	X
17	6611 8770	Rating plate DDM-K619	K440981-3	EV-510D	1	X
18	6608 8420	Stand A-K331	K310518-1	Common	1	C
19	6611 5150	Cushion A-K615	K440931-1	Common	2	X
20	6611 5160	Cushion B-K615	K440931-2	Common	2	X
21	2725 1326	Display unit	COD25T2015PB	Common	1	B
22	6611 4978	BL unit	K340703*1	Common	1	A
23	5112 0868	Screw	BT3 1.7X5 Bk	Common	4	C
24	5860 0420	Screw	BT3 1.7X4 Ni	Common	6	C
25	6609 1290	Screw A-K610	K412031-1	Common	1	C
26	6609 9680	Jack cover A-K611	K340237-1	EV-510D/I/N	1	X

Notes: Q – Quantity used per unit
R – Rank

SCHEMATIC DIAGRAMS

LINEAR (EV-510C/I/N)



LINEAR (EV-510D)

Antenna

External Antenna Jack

Tuner

IF Pad

IF Detection Circuit

Power Switch

Audio/Video Jack

DC In

Chroma Circuit

Earphone Jack

Speaker

Power Supply Circuit

Audio Amplifier Circuit

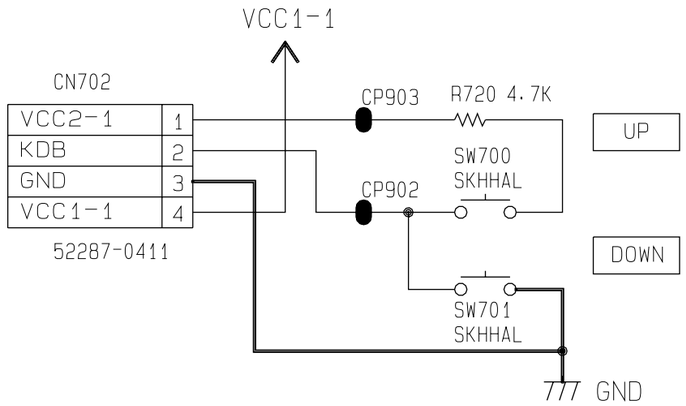
Tuning Voltage Generator Circuit

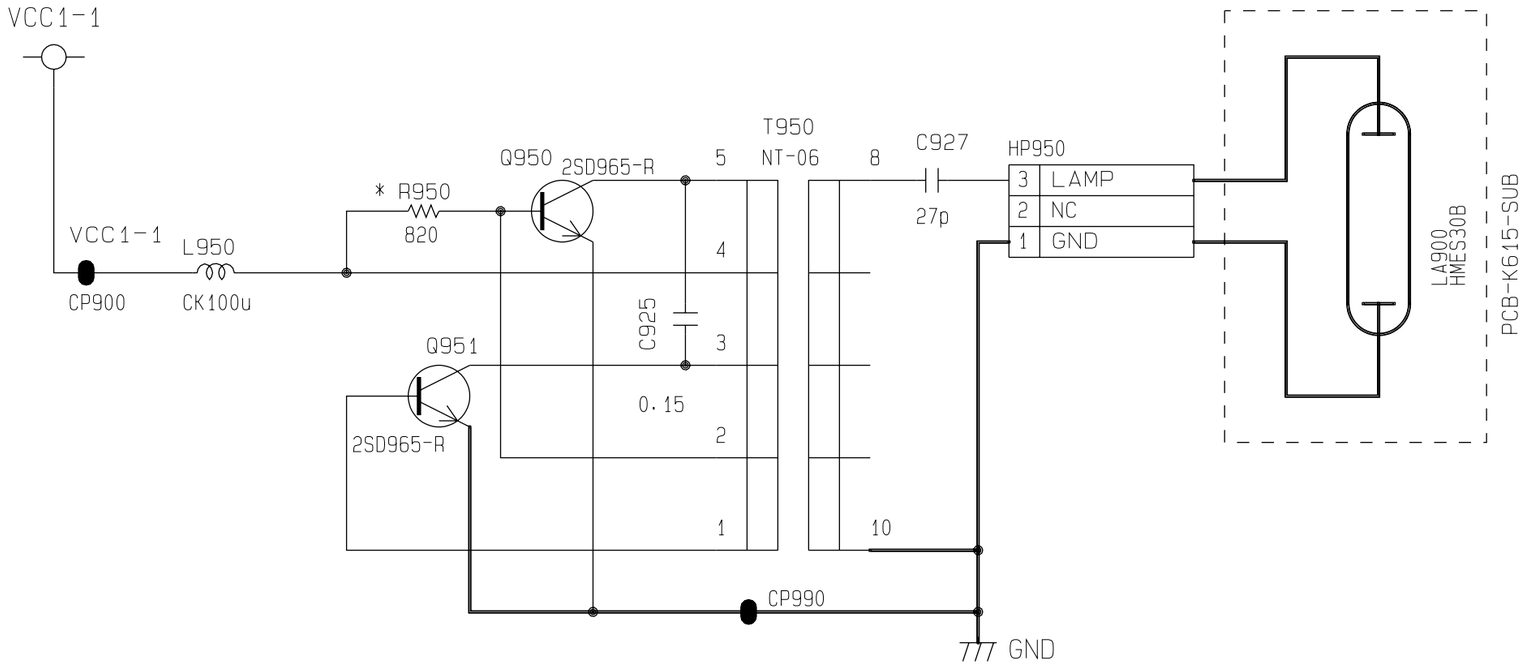
Display Controller Circuit

To Back Light

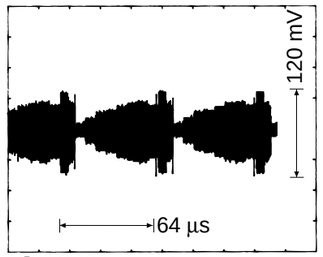
To LCD

BL

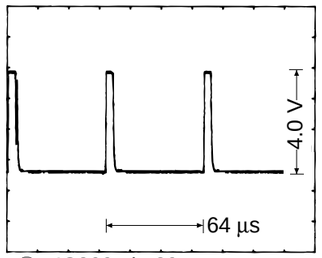

VCC1-1
CN702
VCC2-1 1
KDB 2
GND 3
VCC1-1 4
52287-0411
CP903
R720 4.7K
UP
SW700
SKHHAL
CP902
DOWN
SW701
SKHHAL
GND


VCC1-1
VCC1-1
CP900
L950
CK100u
* R950
820
Q950
2SD965-R
Q951
2SD965-R
C925
0.15
T950
NT-06
5
4
3
2
1
8
10
C927
27p
HP950
3 LAMP
2 NC
1 GND
LA900
HMES30B
PCB-K615-SUB
CP990
GND

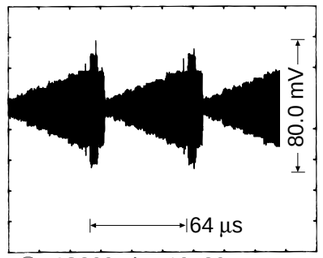
WAVEFORMS



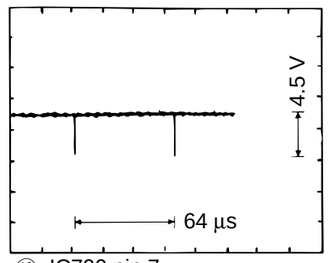
① Q200 collector



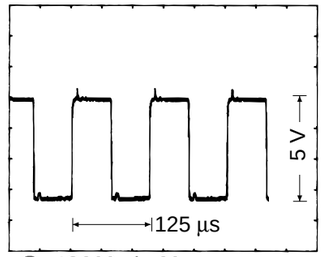
② IC300 pin 20



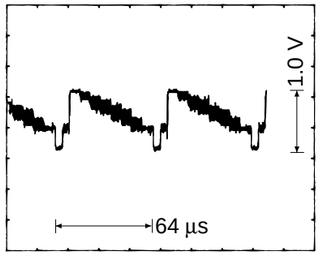
③ IC200 pins 19, 20



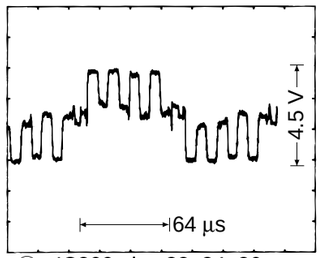
⑯ IC700 pin 7



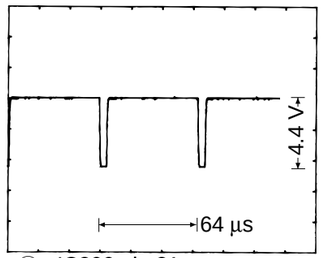
⑰ IC300 pin 30



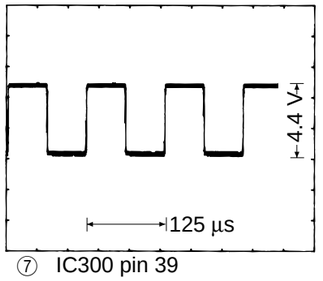
④ IC200 pin 18



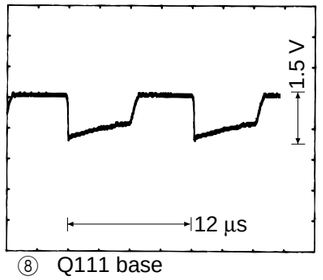
⑤ IC300 pins 32, 34, 36



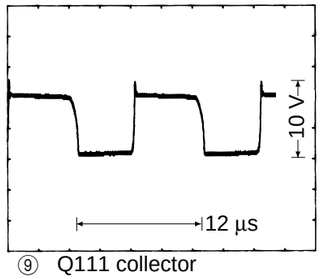
⑥ IC300 pin 21



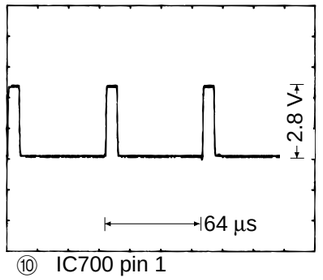
⑦ IC300 pin 39



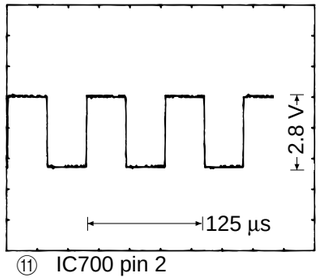
⑧ Q111 base



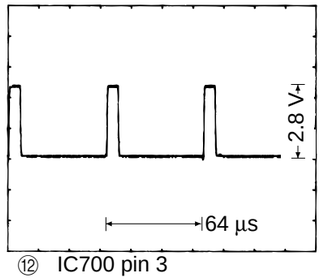
⑨ Q111 collector



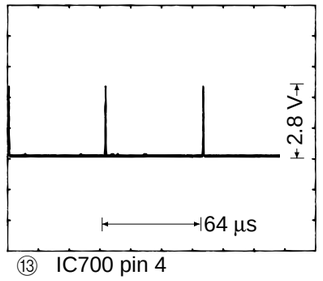
⑩ IC700 pin 1



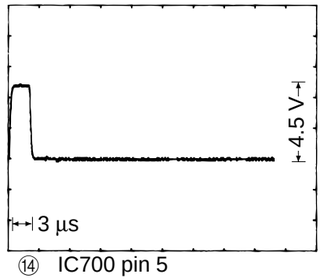
⑪ IC700 pin 2



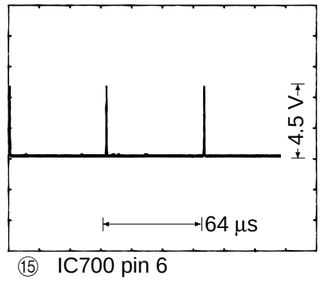
⑫ IC700 pin 3



⑬ IC700 pin 4



⑭ IC700 pin 5



⑮ IC700 pin 6

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Shinjuku-ku, Tokyo 160, Japan
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MA0400471A